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United States Patent [19]

Hirose et al.

[11] **Patent Number:** **5,888,126**[45] **Date of Patent:** **Mar. 30, 1999****[54] POLISHING APPARATUS INCLUDING
TURNTABLE WITH POLISHING SURFACE
OF DIFFERENT HEIGHTS**

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[52] **U.S. Cl.** **451/287; 451/288; 451/495,**
451/527

[58] **Field of Search** 451/41, 293, 285,
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528, 530

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[57] ABSTRACT

A polishing apparatus includes a turntable with an abrasive cloth mounted on an upper surface thereof, and a top ring disposed above the turntable for supporting a workpiece to be polished and pressing the workpiece against the abrasive cloth under a predetermined pressure. The turntable and the top ring are movable relatively to each other to polish a surface of the workpiece supported by the top ring with the abrasive cloth. The abrasive cloth has a projecting region on a surface thereof for more intensive contact with the workpiece than other surface regions of the abrasive cloth. The projecting region has a smaller dimension in a radial direction of the turntable than a diameter of the workpiece when the projecting region is held in contact with the workpiece. A position of the projecting region is determined on the basis of an area in which the projecting region acts on the workpiece.

21 Claims, 21 Drawing Sheets